

Inventions & Innovation Project Abstract

Pulse Drying Experiment and Burner Construction

Paper manufacturing begins with wet pulp fibers that are progressively shaped, dewatered, and then evaporatively dried into finished products. Virtually all paper manufacturing equipment worldwide is limited by the evaporative drying stage. The most common air drying process is impingement evaporation, where hot gas jets blow on the wet paper web. Pulse drying improves efficiency of this process by 59% and speeds overall paper production 21%. Although these advantages have been experimentally demonstrated in the lab, no paper manufacturers currently use this technology because pilot plants have failed, and paper manufacturers don't currently invest in basic process R&D.

PC Engineering has designed several pulse burners that are now commercially used in other industries, and is now applying this expertise to the paper drying industry with its innovative burner design. Pulse drying of paper webs applies directly to "Yankee" and "MG" style paper equipment, and indirectly to newsprint, box board, and fine grades of paper.



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